SEMPARIS – Séminaires en région parisienne

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Forum de Physique Statistique @ ENS

Mercredi 25 Mars 2020, 14 :30
LPENS, https ://zoom.us/j/224076956(The Stat Phys Forum will be held via Zoom : standalone client : https ://zoom.us/j/224076956, Chrome browser : https ://zoom.us/wc/join/224076956 ? pwd=)
Domaines : cond-mat.stat-mech

Titre : *Universality classes of transport in quantum and classical chains : from diffusion to KPZ dynamics*

Orateur : **Jacopo De Nardis (Ghent University)**

Résumé : *Finding a theoretical framework to explain how phenomenological transport laws on macroscopic scales emerge from microscopic deterministic dynamics poses one of the most significant challenges of condensed matter and statistical physics. Recently there has been an influx of new numerical and analytical results for the transport theory of quantum and classical many-body 1D Hamiltonian systems, both integrable and not. I will provide a general framework to understand the main classes of transport observed : diffusion, super-diffusion and logarithmic corrections to diffusion. I will review how diffusive spreading is generically present in integrable chains and how KPZ dynamics emerge in both integrable and non-integrable rotationally invariant magnets.*
